

What is claimed is:

1. A method for delivering iron to blood comprising:  
providing a dialysate having dissolved therein a complex of one or more divalent or trivalent iron ions and one or more anions, the complex having a molecular weight of less than about 50,000; and

dialyzing a patient with the dialysate to increase the level of iron in the patient's blood.

2. The method according to claim 1, wherein the anion is an organic anion.

3. The method according to claim 1, wherein the molecular weight is less than about 12,000; and wherein said dialyzing comprises dialyzing the blood extracorporeally with the dialysate.

4. The method according to claim 1, wherein said dialyzing comprises introducing the dialysate into the patient's peritoneum.

5. A method for delivering iron to a patient with the introduction of substantially no free iron into the patient's blood, comprising:

providing a dialysate composition having dissolved therein a complex of one or more multi-polar, divalent or trivalent iron ions and one or more anions having a molecular weight of less than about 50,000; and  
performing dialysis on a patient with the dialysate.

6. The method according to claim 5, wherein the concentration of divalent or trivalent iron ions in the dialysate is at least about 50 $\mu$ g/dl and the molecular weight of the complex is less than about 25,000.

7. The method according to claim 5, wherein the anion is an organic anion.

8. The method according to claim 7, wherein the organic anion has a molecular weight of less than about 12,000.

9. The method according to claim 8, wherein the complex is ferrous gluconate.

10. A method for delivering iron to blood, comprising:  
passing blood against a first side of a membrane; and  
passing against a second side of the membrane an aqueous solution having dissolved therein an iron complex comprising one or more iron ions and one or more anions; the complex having a molecular weight of less than about 12,000;

wherein the membrane is permeable to the complex; and  
wherein the complex is delivered to the blood.

11. The method according to claim 10, wherein the complex has a molecular weight of less than about 5,000.

12. The method according to claim 10, wherein the complex is ferrous gluconate.

13. A method for delivering iron to a patient, comprising:  
introducing a dialysate into a patient's peritoneal cavity,  
the dialysate having dissolved therein a complex of one or more  
divalent or trivalent iron ions and one or more anions;

wherein the complex has a molecular weight of less than  
about 50,000.

14. The method according to claim 13, wherein the complex has a molecular weight of less than about 25,000.

15. The method according to claim 13, wherein the anion is an organic anion.

16. A method for the treatment of a patient to increase the level of iron in the patient's bloodstream, which comprises performing dialysis on the patient with a dialysate which

comprises a soluble, low molecular weight iron complex; sodium; magnesium; calcium; potassium; chloride; acetate and bicarbonate.

17. A method for delivering iron to blood comprising:  
dialyzing a patient with a dialysate having dissolved therein a complex of one or more divalent or trivalent iron ions and one or more anions having a molecular weight of less than about 50,000 to increase the level of iron in the patient's blood.

18. A dialysate composition comprising an aqueous medium having dissolved therein sodium, magnesium, calcium, potassium, chloride, acetate, bicarbonate and an iron complex having a molecular weight of less than about 50,000.

19. The dialysate composition according to claim 18, further comprising a member selected from the group consisting of dextrose, a sorbent and a surfactant.

20. The dialysate composition according to claim 18, comprising from about 130 to about 150 mEq/L sodium, from about 0.4 to about 1.5 mEq/L magnesium, from about 2 to about 4 mEq/L calcium, from about 1 to about 3 mEq/L potassium, from about 90 to about 120 mEq/L chloride, from about 3 to

about 5 mEq/L acetate, from about 30 to about 40 mEq/L bicarbonate and from about 1 to about 250 µg/dl iron as an iron complex having a molecular weight of less than about 50,000.

21. A dialysate concentrate comprising an aqueous medium having dissolved therein sodium, magnesium, calcium, potassium, chloride, acetate, bicarbonate and an iron complex having a molecular weight of less than about 50,000.

22. The dialysate concentrate according to claim 21, further comprising a member selected from the group consisting of dextrose, a sorbent and a surfactant.

23. The dialysate concentrate according to claim 21, wherein the concentrate may be diluted to provide a dialysate; and wherein the sodium, magnesium, calcium, potassium, chloride, acetate, bicarbonate and iron complex are present in the concentrate at concentrations from about 30 to about 40 times higher than their concentrations in the dialysate.

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